

Appl. No. 10/050,260
Amendment and/or Response
Reply to Office action of 17 June 2004

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Amendments to the Claims:

A listing of the entire set of pending claims (including amendments to the claims, if any) is submitted herewith per 37 CFR 1.121. This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Previously presented) A lighting device, comprising:
 - a light emission surface;
 - a plurality of substantially point-shaped light sources; and
 - an optical waveguide plate into which a plurality of cavities is provided, each cavity accommodating a light source and including an upper side closest to the light emission surface and side walls that allow coupling of light therethrough into the optical waveguide plate, said upper side being covered with a first reflecting layer, said cavities extending only partially through the optical waveguide plate toward the light emission surface, such that a portion of the light coupled from one of the cavities through the side walls can reach and be emitted from an area of the light emission surface directly above said one of the cavities.
2. (Previously presented) The lighting device of claim 1, wherein the side walls of the cavities are substantially perpendicular to the light emission surface, and the upper sides of the cavities are substantially parallel to the light emission surface.
3. (Previously presented) The lighting device of claim 1, wherein the cavities are each covered with a second reflecting layer on their lower side opposite to their upper side.
4. (Previously presented) The lighting device of claim 1, wherein the cavities are substantially cylindrical in shape.

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5. (Previously presented) The lighting device of claim 1, wherein the cavities are provided in the lower side of the optical waveguide plate.
6. (Previously presented) The lighting device of claim 1, wherein the light sources are light-emitting diodes.
7. (Previously presented) The lighting device of claim 3, wherein the second reflecting layer extends over the side faces and the lower side of the optical waveguide plate.
8. (Currently amended) A lighting device, comprising:
- a light emission surface;
 - a plurality of first reflecting layers;
 - a second reflecting layer;
 - a plurality of substantially point-shaped light sources; and
 - an optical waveguide plate having at least two side faces, and also having, between the at least two side faces, an underside into which a plurality of cavities is provided, each cavity accommodating a respective one of the light sources, which cavities each comprise an upper side and side walls, the upper side of each cavity facing the light emission surface and side walls, said upper side being covered with a respective one of the first reflecting layers, while the coupling of the light into the optical waveguide plate takes place through the side walls, wherein:
 - the cavities are each covered ~~with a~~ by the second reflecting layer on their lower side opposite to their upper side;
 - the second reflecting layer extends over the side faces and the ~~lower side~~ underside of the optical waveguide plate; and
 - the second reflecting layer is at a distance from the optical waveguide plate, which distance constitutes an air gap.

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9. (Previously presented) A lighting device, comprising:
 - a light emission surface;
 - a plurality of substantially point-shaped light sources; and
 - an optical waveguide plate into which a plurality of cavities is provided, each cavity accommodating a light source, which cavities each comprise an upper side facing the light emission surface and side walls, said upper side being covered with a first reflecting layer, while the coupling of the light into the optical waveguide plate takes place through the side walls,wherein the first reflecting layer extends further in horizontal direction with a first portion into the optical waveguide plate.
10. (Previously presented) A lighting device, comprising:
 - a light emission surface;
 - a plurality of substantially point-shaped light sources; and
 - an optical waveguide plate into which a plurality of cavities is provided, each cavity accommodating a light source, which cavities each comprise an upper side facing the light emission surface and side walls, said upper side being covered with a first reflecting layer, while the coupling of the light into the optical waveguide plate takes place through the side walls,wherein the first reflecting layer extends further with a second portion along the side walls of the cavity.
11. (Currently amended) The lighting device of claim 10, wherein the edges of the cavities situated opposite the upper side are surrounded by another reflecting layer.
12. (Currently amended) A liquid crystal display device incorporating the lighting device of claim 10.

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13. (Currently amended) A lighting device, comprising:
a light emission surface;
first and second reflecting layers:
an optical waveguide plate including side faces and an underside
therebetween into which at least one cavity is provided, the cavity including an upper
side closest to the light emission surface, a lower side opposite the upper side, and
at least one side wall allowing coupling of light into the optical waveguide plate; and
at least one light source accommodated within the cavity,
the upper side being substantially covered ~~with a~~ by the first reflecting layer
and the lower side being substantially covered ~~with a~~ by the second reflecting layer.
14. (Previously presented) The lighting device of claim 13, wherein the light source
is a light-emitting diode.
15. (Currently amended) The lighting device of claim 13, wherein the second
reflecting layer extends over ~~lower side~~ the underside and the side faces of the
optical waveguide plate.
16. (Previously presented) The lighting device of claim 15, wherein the second
reflecting layer is at a distance from the optical waveguide plate, which distance
constitutes an air gap.
17. (Previously presented) The lighting device of claim 13, wherein the first reflecting
layer extends beyond the cavity into the optical waveguide plate.
18. (Previously presented) The lighting device of claim 13, wherein the first reflecting
layer extends along the side wall of the cavity.

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19. (Currently amended) The lighting device of claim 13, wherein an edge of the cavity situated opposite the upper side is surrounded by ~~another~~ a third reflecting layer.

20. (Previously presented) The lighting device of claim 13, wherein the side wall of the cavity is substantially perpendicular to the light emission surface, and the upper side of the cavity is substantially parallel to the light emission surface.

21. (Previously presented) A display device incorporating the lighting device of claim 13.